Proceedings of International Conference on Scientific Research in Natural and Social Sciences
Hosted online from Toronto, Canada.
Date: 5th May, 2023
ISSN: 2835-5326 **Website:** econferenceseries.com

THE EMERGENCE OF MATHEMATICAL EDUCATION IN PRE-SCHOOL EDUCATIONAL INSTITUTIONS

Anvarova Marjona
Shahrisabz State Pedagogical Institute
1st stage graduate student

АННОТАЦИЯ

Ушбу мақолада МТМда математик тасаввурларни шакллантириш муаммоси ёритилган. Математик тафаккурни шакллантириш бўйича изланишлар олиб борган олимларнинг фикрлари таҳлил қилинган. Уларнинг ғоялари таснифланган. Хулоса ва таклифлари атрофлича ўрганилган. Математик тушунчаларни шакллантириш инсон ижодий фаолиятининг бутун мақсадли амалга ошириладиган педагогик жараёни эканлиги таъкидланган.

Калит сўзлар: математик тушунчаларни ривожлантириш, масала тузиш, ечиш, мустақил фикр, ақлий ривожланиш, фаолият, ҳаракат, репродуктив услуб.

АННОТАЦИЯ

В данной статье освещена проблема формирования математических понятий в МТМ. Проанализированы мнения ученых, проводивших исследования по формированию математического мышления. Их идеи засекречены. Выводы и предложения тщательно прорабатываются. Подчеркивается, что формирование математических понятий является целенаправленным педагогическим процессом творческой деятельности человека.

Ключевые слова: развитие математических понятий, постановка задачи, решение, самостоятельное мышление, умственное развитие, деятельность, движение, репродуктивный стиль.

ANNOTATION

In this article, the problem of forming mathematical concepts in MTM is highlighted. The opinions of scientists who conducted research on the formation of mathematical

thinking were analyzed. Their ideas are classified. Conclusions and suggestions are thoroughly explored. It is emphasized that the formation of mathematical concepts is a purposeful pedagogical process of human creative activity.

Keywords: development of mathematical concepts, problem formulation, solving, independent thought, mental development, activity, movement, reproductive style.

Setting new goals for the school led to a radical change in the content of mathematical education at PEI (Preschool Educational Institution). As a result of the reforms, the tasks, contents, forms and methods of education and upbringing of children are fundamentally changing.

One of the goals of teaching children mathematics and improving the educational process in preschool education is the development of mathematical concepts in children. In order to develop children's mathematical concepts, it is necessary to know the features and laws studied in pedagogy, philosophy, logic, psychology and a number of other fundamental sciences. Mathematical knowledge in children makes it possible to study the world in a deeper and fuller way without being separated from life. In this, the idea that children have before mathematical concepts is of great importance. Each innovation is preceded by an idea, and then this innovation also tries to understand a general method to prove the results it has produced and to generalize this result. The process of solving mathematical problems at its core requires independent thinking. The level of development of mathematical concepts varies from person to person. Its formation requires constant training. These exercises begin with family and preschool education. Each independently solved problem, structured problem, and independent overcoming of the difficulties encountered in the process of solving the problem builds resilience and develops creative abilities.

The analysis of the literature shows that the product of developing mathematical concepts is characterized by a high level of innovation, the uniqueness of the process of achieving it, and a significant impact on mental development. Some authors believe that the child's different thinking encourages him to independently solve new problems in front of him, quickly acquire deep knowledge, and easily move to a convenient opportunity. S.L.Rubinstein's first research on general mental

development is appropriate. He introduced and established the category of activity in psychology as the object and goal of spiritual research. Based on activity theory, S.L.Rubinstein introduces the concept of activity as a transition from subject to object. S.L.Rubinstein believes that the second stage of activity consists of communication from object to subject. In the center of attention of S.L.Rubinstein is the content that in the process of human activity, not only his characteristics are manifested as a unique person, but also the formation of his psyche is determined as an object. Fundamental psychological concepts of "activity", "movement" covered in the works of A.N.Leontev.

A.N.Leontev, who believed that activity is the interaction of the interconnected reality of the subject, believes that the reflection of reality in the child's mind is not the result of "impact", but the result of interaction, that is, the processes that encounter each other. According to the conclusions of A.N.Leontev and S.L.Rubinstein in teaching practice, the development and use of forms of activity in the formation of mathematical concepts and the successive transfer of the principles of activity in education are the most useful and effective directions. All research in the development of mathematical concepts is conducted in two main directions. In the first direction, specific characteristics of mathematical concepts are described. From this point of view, the work of many scientists is devoted to the study of problems.

In the formation of mathematical concepts, I.Ya.Lerner and M.N.Skatkin rely on the categories of methods developed. In this categorization, styles are divided into: 1) pictorial explanation or informational style; 2) reproductive (remembering, remembering) style; 3) problematic expression style; 4) partial research method; 5) research method. The visual explanation method includes recalling (remembering) ready-made knowledge and activity methods. The problem-solving style involves keeping mathematical and concrete knowledge in mind. In a partially exploratory style, elements of thinking and memorization are added. And the research method predicts creative activity. These methods ensure the assimilation of knowledge, the formation of knowledge and skills, create an opportunity for educators to acquire the experience of creative activity, and serve to educate emotional (feelings) culture in them.

Mathematical concepts, in turn, arise as a result of the generalization of the vast experience accumulated by mankind and reflect the essence of the material world, but are formed as a result of their idealization, ignoring many properties of real objects. The formation of mathematical concepts is recognized as one of the necessary school subjects to prepare preschool children to teach mathematics. The main issue of the theory and methodology of the formation of mathematical concepts in children is the development of didactic foundations of the formation of mathematical concepts in children. This, in turn, is solved by performing tasks such as in-depth knowledge of the world, learning new methods of thinking development. Theoretical aspects of the formation of mathematical concepts in children are created on the basis of psychological, pedagogical and other fundamental sciences:

– documents with demonstration programs (instructions on the formation of mathematical concepts in children, etc.);

– methodological literature (articles published in special magazines, for example, educational manuals on preschool education, games, etc.);

– team and individual work, best practices and opinions of scientists.

Nowadays, the problem of forming mathematical concepts in children has a scientifically based methodical system. Their main elements are the goal, content, methods, forms and methods of work organization and are inextricably linked. The main goal among them is focused on the formation of imagination. Formation of mathematical concepts is a purposeful pedagogical process of human creative activity. Its purpose is to prepare children not only to know mathematics, but also to help them find their place in life. When teaching mathematics, he includes these factors in educational measures: 1) formation of interest, knowledge and skills in children to study; 2) explanation of responsibility for the training process; 3) to cultivate confidence in one's own strength and abilities; 4) foster confidence that mathematics is the "ground" for the next stage. In the formation of mathematical concepts, S.I.Schwartzburd distinguishes the following components: 1) development of a comprehensive representation; 2) knowing how to choose the main thing, knowing how to think abstractly; 3) know how to move from a concrete situation to a mathematical expression of a question; 4) to know how to analyze, to divide into concrete cases; 5) know how to work scientific conclusions on specific material; 6) to know how to tolerate when solving a mathematical problem, to

develop deductive thinking skills; 7) know how to ask (put) new questions. Therefore, early mathematical abilities are expressed through such human characteristics that enable high creative activity in mathematics.

I.A.Markushevich says that the main task of preschool education is to develop mathematical concepts in children. I.A.Markushevich provides a detailed methodological program for the formation of the following skills in children: 1) determining the essence of the question; 2) transition from a clearly posed question to a scheme (knowing the scheme); 3) to draw logical conclusions from given hypotheses; 4) analysis of the given question; 5) know how to use the conclusions derived from theoretical thinking in specific questions; 6) comparison of conclusions; 7) assessment of the impact on the results of the conditions; 8) summarizing the obtained conclusions and asking new questions.

In short, the above-mentioned knowledge is the basis of a child's creative thinking, and it is necessary to regularly develop this knowledge in children before they enter school. If mathematical ideas are well formed in kindergarten, the child will not struggle to learn mathematics at school. Interest in this subject will increase. Children who know mathematical calculations will master concrete subjects better. Today, mental arithmetic is also very developed in our country. Mental arithmetic improves the child's mental development. Helps the child to grow up independent and educated.

Literature:

1. Рахмонқулова Н., Қурбонова Н. Мактабгача ёшдаги болаларда математик тасаввурларини шакллантириш. Методик қўлланма. – Тошкент, 2009. – 102 б.
2. Жалолова Г. Мактабгача ёшдаги болаларни мактабга тайёрлаш. – Тошкент, 2004. – 212 б.
3. https//idum.uz
4. ziyoNet.uz